



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

August 28, 1986

TO: Board of Oil, Gas and Mining

THRU: *JS* Kenneth E. May, Associate Director, Mining

THRU: Lowell P. Braxton, Administrator, Mineral Resource *LB*
Development and Reclamation Program

FROM: D. Wayne Hedberg, Permit Supervisor/Reclamation Hydrologist

RE: Kennecott, UCD Modernization Project, Phase II, Request for
Board Concurrence, Amount and Form of Reclamation Surety,
ACT/035/002-(II), Salt Lake County, Utah

Attached for your information is a copy of the executive summary for Kennecott's UCD Modernization Project (Phase II). This executive summary was previously presented to you during the July Board Hearing executive session. At that time, Kennecott had anticipated posting the required reclamation bond before the scheduled August Board Hearing. Kennecott had intended to request that the Board exercise an emergency approval for the project once the surety was posted.

Kennecott filed a reclamation bond on August 25, 1986 for Phase II of the UCD Modernization Project. The Division seeks your concurrence on the amount and form of the surety. The reclamation bond (MR Form 5) is in the sum of \$6,483,525.

Public notice was forwarded to the appropriate news services, and the thirty (30) day public comment period for "Phase II" activities expired on August 2, 1986. One written public protest was received by the Division on August 15, 1986. Each of you should have been provided with a copy of this letter. A copy is attached in the event you did not receive it. The written comment was received 13 days after the 30-day public comment period had expired.

It is the Division's opinion that most of the issues and concerns raised within the context of the letter are above and beyond the scope of the review required for this specific mine plan revision. The Division will await the Board's recommendations and final decision on any necessary action which may be required in this matter.

Kennecott has adequately resolved all but one of the conditions which were attached to the Division's June 27, 1986 tentative approval letter. This condition is outlined in the attached executive summary documentation for your reference.

jvb
Attachments
8946R-54

KENNECOTT UTAH COPPER DIVISION (UCD)
MODERNIZATION PROJECT
(PHASE II)
EXECUTIVE SUMMARY - REVISION TO EXISTING PERMIT
August 28, 1986

Mine Name: Bingham Canyon Mine I. D. No.: ACT/035/002 - II
UCD Modernization Project - Phase II, Grinding/Milling Plant, Ore
Conveyor and Pipeline Construction Activities

Operator: Kennecott Minerals Company County: Salt Lake
P.O. Box 11248 New/Existing: New Revision
Salt Lake City, Utah 84147 to Existing Mine
Salt Lake City, Utah 84147 Mineral Ownership: Kennecott
Telephone: 801-332-8261 Surface Ownership: Kennecott
Contact Person: Mr. Gregory H. Boyce Lease No.(s): N/A
Life of Mine: 30 Years (?) Permit Term: 30 years-UCD Mod.

Legal Description: (of revision) Grinding Plt.- SW1/4 Section 5 and SE1/4
Section 6 and SE1/4 and W1/2 Section 8, T3S, R2W, SLBM; Access Road - portions
of Section 8 and Section 5, T3S, R2W, SLBM; Ore Conveyor - portions of Section
6, 7, and 18, T3S, R2W, SLBM; Pipeline corridor - portions of Section 5 and 6,
T3S, R2W, Sections 6, 7, 8, 16, 17, 21, 28, 29 and 32, T2S, R2W, and Section
31, T1S, R2W, SLBM.

Mineral(s) to be Mined: Copper/Molybdenum

Mining Methods: Typical surface strip mining techniques (shovel & truck)

Acres to be Disturbed: 163 Acres -(Phase I), plus 425 Acres -(Phase II)

Present Land Use: Wildlife, agricultural and mining

Postmining Land Use: Native rangeland, wildlife, grazing

Variances from Reclamation Standards (Rule M-10) Granted: M-10(12) Soils,
*(See Attachment for explanation) M-10(7) Roads and Pads

Soils and Geology:

Soil Description: Clay loam (surface soil, 0-12 inches), Clay to a clay
loam (subsurface soil, 12-60 inches)

pH: 6.2 (average of surface soil), 7.6 (average subsurface soil)

Special Handling Problems: Low erosion hazard, relatively flat topography

Geology Description: East flank, northern Oquirrh Mts. Grinding Plant
underlain by Harkers Alluvium (Pleistocene), Harkers is overlain by Mid-Late
Pleistocene Lake Bonneville lacustrine deposits and by Late Pleistocene to
recent alluvial fan deposits, stream gravels, valley fill and talus deposits,
all are underlain by bedrock consisting of laharic breccia (Bingham Sequence:
Curry Peak, Freeman Peak, Kirkman-Diamond Frms)

Hydrology:

Ground Water Description: Principal aquifer occurs @350-500 feet below
surface overall project area. Local perched aquifer encountered in 1 of 56
bore holes @ 35 ft. Anticipated minor amts. perched groundwater aquifers may
be encountered excavating in Harkers Alluvium near bedrock contact and in
recent alluvium of major drainages crossing the tailings pipeline corridor.

ATTACHMENT

Mining and Reclamation Plan Summary UCD Modernization Project - Phase II

Kennecott Minerals Company, Utah Copper Division
Bingham Canyon Operations
ACT/035/002 - (II)
Salt Lake County, Utah

August 28, 1986

During Operations:

1. Construction activities associated with "Phase I" and "Phase II" permitting will disturb approximately 588 acres of privately owned land. Of this total, 163 acres were previously approved under "Phase I" (i.e., grinding/mill site grading and access road construction). The grinding plant site encompasses 115 acres. The access road right-of-way to the plant location involves 48 acres.
2. "Phase II" permitting includes: construction of the new grinding/milling plant facilities, a new in-pit crusher and 54" conveyor, a 72" crushed ore conveyor to the new grinding plant from the pit, a 48" ground ore (flotation feed) pipeline for transport to existing Arthur and Magna flotation facilities, and a second 48" pipeline to recycle process water back to the grinding plant.
3. The conveyor and pipeline corridors will each be 200 feet wide. The 72" ore conveyor corridor is 6,350 feet in length and will involve 30 acres of new surface disturbance. The pipeline corridor, including areas of common pipeline corridor and single pipeline corridor is 86,000 feet in length and will disturb approximately 395 acres. A construction and maintenance road will parallel the conveyor and pipeline corridors.
4. Prior to the removal of cut or the placement of fill along the conveyor and pipeline routes, the upper horizon soil will be removed from all areas to be disturbed. The soil will be stored in stockpiles along the corridors. Erosion control measures will be implemented to minimize topsoil losses. The soil will be stored from one (1) to three (3) years. Upon completion of construction, stored soil will be placed on the remaining exposed ground, fertilized and reseeded during the fall season.

Following Operations:

1. Kennecott will implement the following reclamation plan upon termination of all mining activities associated with the UCD Modernization Project:
 - (i) Salvageable equipment will be dismantled and sold, surface structures will be razed, foundations, parking and driving surfaces will be broken up, removed and/or buried. Disturbed areas will be stabilized and regraded to conform with the surrounding natural terrain.
 - (ii) Kennecott will not store first horizon soil for final reclamation use. Pursuant to an approved variance request from rule M-10(12), Kennecott, with assistance from the State Division of Oil, Gas and Mining will establish a test plot revegetation program to determine best techniques for supplementing and reclaiming the second horizon soil material.
 - (iii) Pursuant to an approved variance request to M-10(7), Kennecott will not reclaim the pipelines, pipeline corridors, the access road to the grinding/milling plant, or the maintenance/service roads which will parallel the pipeline and conveyor corridors. Kennecott has proposed a post-mining land use for these facilities and will be held responsible for performing routine maintenance activities as necessary.
 - (iv) Standard agronomic practices will be used to prepare the seedbed for drill and/or broadcast seeding. It is anticipated that the disturbed areas will be reclaimed principally with native vegetative species (test plot dependant).

CONDITION(S) TO PERMIT APPROVAL:

Pursuant to the Division's June 27, 1986 "Tentative Approval" letter to Kennecott, six conditions remained to be addressed. One condition remains to be addressed as follows:

1. A complete copy of the correspondence package between the Utah Department of Health and Kennecott which will address:
 - (a) Plans for the containment and recovery of potential leaks from the twin 48-inch pipelines.

- (b) Final details regarding the ground-water monitoring program for the area downgradient from the proposed grinding plant site and pipelines.

Kennecott has indicated that the finalized plans have been submitted to the Health Department and are pending final sign off by the Bureau of Water Pollution Control. Upon receipt of State Health's construction permit, Kennecott will forward appropriate copies of the required information to the Division which will be incorporated into the permit application.

8992R-42